

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. 2001-NE-26-AD; Amendment 39-12984; AD 2002-25-08]**

**RIN 2120-AA64**

### **Airworthiness Directives; General Electric Company (GE) CF6-45, -50, -80A, -80C2, and -80E1 Turbofan Engines**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

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**SUMMARY:** This amendment supersedes three existing airworthiness directives (AD's), that are applicable to GE CF6-45, -50, -80A, -80C2, and -80E1 turbofan engines. Those AD's currently require specific handling of the GE CF6 series high pressure compressor rotor (HPCR) stage 3-9 spools during a fluorescent penetrant inspection process, and initial and repetitive ultrasonic and eddy current inspections of certain HPCR stage 3-9 spools for cracks. This amendment removes the AD that requires special handling of the spools during fluorescent-penetrant inspection, and adjusts and combines the initial and repetitive inspection requirements, currently listed in two AD's, into one AD for the HPCR stage 3-9 spool. This amendment aligns repetitive inspection requirements with the more stringent initial inspection requirements mandated by AD 2000-16-12, Amendment 39-11868 (65 FR 50623, August 21, 2000) and terminates AD 95-18-14, Amendment 39-9361 (60 FR 46216, September 6, 1995) that is no longer necessary. The actions specified by this AD are intended to prevent cracks, which can cause separation of the HPCR stage 3-9 spool and possible uncontained engine failure.

**DATES:** Effective January 23, 2003. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of January 23, 2003.

**ADDRESSES:** The service information referenced in this AD may be obtained from General Electric Company via Lockheed Martin Technology Services, 10525 Chester Road, Suite C, Cincinnati, Ohio 45215, telephone (513) 672-8400, fax (513) 672-8422. This information may be examined, by appointment, at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Chris Gavriel, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7147; fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 95-18-14, Amendment 39-9361 (60 FR 46216, September 6, 1995); AD 99-24-15, Amendment 39-11440 (64 FR 66554, November 29, 1999); and AD 2000-16-12, Amendment 39-11868 (65 FR 50623, August 21, 2000); which are applicable to GE CF6-45, -50, -80A, -80C2, and -80E1 turbofan engines, was published in the Federal Register on June 12, 2002, (67 FR 40239). That action proposed to combine the requirements of AD 99-24-15 and AD 2000-16-12 with the following additional changes to:

- Adopt the accelerated initial inspection requirements of AD 2000-16-12 to spools acquiring 7,000 cycles-since-new (CSN) or more in service after July 28, 2001,
- Relax initial compliance requirement for the CF6-45, -50, and CF6-80A 13-inch billet spools to make them consistent with 9 and 10-inch billet spools,
- Add repetitive inspection requirements to the existing one-time inspection requirement for the CF6-80C and -80E series engine spool web and hub-to-web transition areas,
- Replace engine shop visit inspection threshold limits for certain spools with cyclic limits,
- Add a time limit for slot bottom inspection for 13-inch billet spools for CF6-45, -50, -80A engines and for 9-inch and 10-inch billet spools for CF6-45, -50, -80A, and -80C engines,
- Add a time limit for the initial inspection and add repeat inspection intervals for stage 3-5 slot bottom inspection for certain spools,
- Add a time limit for one-time inspection of 8-inch billet 2-piece spools, and
- Provide for an alternative modular inspection for the slot bottoms.

The action was prompted by a report of an uncontained failure of an HPCR 3-9 spool.

The inspections must be done in accordance with the following GE alert service bulletins (ASB's):

- ASB GE CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002.
- ASB GE CF6-50 S/B 72-A1131, Revision 4, dated October 2, 2002.
- ASB GE CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002.
- ASB GE CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002.
- ASB GE CF6-80A S/B 72-A0691, Revision 5, dated October 2, 2002.
- ASB GE CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002.
- ASB GE CF6-80C2 S/B 72-A0812, Revision 4, dated October 2, 2002.
- ASB GE CF6-80C2 S/B 72-A0934, Revision 4, dated October 2, 2002.
- ASB GE CF6-80E1 S/B 72-A0135, Revision 3, dated October 2, 2002.
- ASB GE CF6-80E1 S/B 72-A0126, Revision 5, dated October 2, 2002.
- ASB GE CF6-80E1 S/B 72-A0137, Revision 4, dated October 2, 2002.

## **Comments**

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

## **Web Inspection May Require Unscheduled Removals of Engines**

Several commenters state that inspection of the web per Alert Service Bulletin 72-A0848, after January 27, 2003, at 3,500 CSN is a decrease from inspection requirements prior to that date. The commenters feel that this requirement will force operators to remove engines off wing to do the inspection in order to comply with this proposed AD.

The FAA agrees. Based on information received from several commenters, this requirement will have an adverse economic and operational impact on several operators. We have reviewed a risk analysis that includes an extension of the web inspection requirement by six months, relative to the date proposed in the NPRM, and find that the new risk is still acceptable under the guidelines appropriate for this type of failure. As a result, the requirement has been extended by six months.

### **Request To Add a FAX Number for the Reporting Requirements**

One commenter requests that a FAX number be added to the reporting requirements. Due to time differences around the world, the time allotted for reporting may not be sufficient for other means of communication

The FAA agrees. We have added a facsimile number to the reporting requirements.

### **Request To Make Editorial Changes to Wording in the Requirements of the AD**

One commenter requests certain word changes, such as replacing "by" with "at", replacing "within" with "before", etc., and adding certain paragraph headings. These changes are requested to make the AD requirements consistent and more understandable.

The FAA partially agrees. We consider the consistency of wording and the readability of the requirements of the AD to be of highest concern. However, we also feel that many of the suggested changes are stylistic and do not affect the technical accuracy or readability of the AD. We have made some of the requested changes to ensure consistency among the requirements and to improve the readability of the requirements of the AD.

### **Requested Corrections to CF6-50 8-Inch Requirements**

Several commenters request that the title for paragraph (d) be corrected from "CF6-508-inch" to "CF6-50 8-inch." The same commenters also request that the FAA correct service bulletin identifications in paragraphs (f), (g), and (j).

The FAA agrees. The title for paragraph (d) and the service bulletin numbers in paragraphs (f), (g), and (j) have been corrected.

### **Request To Change the Definition of an Engine Shop Visit**

Several commenters request that the definition of an engine shop visit be changed to exclude compressor top and bottom case removals for variable stator vane bushing replacements. The commenters feel the inclusion was made to add another condition to the conditions already identified as not constituting engine shop visits (ESV's).

The FAA agrees. We have changed the ESV definition paragraph to exclude the induction of an engine into the shop for the purpose of replacing the variable stator vane bushing.

### **Requested Clarification of the Requirements for Reinstallation of CF6-50 Spools**

One commenter feels that further explanation on the meaning of paragraph (c)(7) is needed.

The FAA agrees. Addition of a heading "Spool Reinstallation Limit" in this paragraph helps in clarifying the intent of this paragraph. Furthermore, as the paragraph states, an engine with a spool that has 10,500 CSN or more may not be installed (i.e. returned to service). The paragraph does not require the removal of an installed engine that has a spool with 10,500 CSN or more.

### **Request To Clarify Paragraph (a)(3)(ii) of This AD**

One commenter requests clarification of paragraph (a)(3)(ii). The commenter feels that paragraph (a)(3)(ii) is necessary to do paragraphs (a)(3)(i) and (a)(3)(iii). The commenter feels that paragraphs (a)(3)(i) and (a)(3)(iii) are redundant to (a)(3)(ii) and can be deleted to simplify the requirements.

The FAA does not agree with deleting paragraphs (a)(3)(i) and (a)(3)(iii). A spool that is exposed as a piece part (paragraph (a)(3)(i)) is also exposed as a rotor (paragraph (a)(3)(ii)). Likewise, a spool that requires a hub inspection in accordance with ASB CF6-50 S/B 72-A1108 hub inspection (paragraph (a)(3)(iii)) must be exposed at least to a rotor level {(a)(3)(ii){time}} in order to do a module level inspection. In this sense, (a)(3)(i) and (a)(3)(iii) are redundant to (a)(3)(ii). However, each condition represents a common but distinct and different level of planned engine maintenance, therefore it was advisable to address each condition specifically for clarity.

### **Request To Clarify That Paragraph (a)(4)(iii) Is Correct**

One commenter requests that the FAA verify that paragraph (a)(4)(iii) and Table 5 are correct. The commenter feels that Table 5 of the AD causes a jump in the inspection interval. The commenter provides a correction to Table 5 of the AD to correct a perceived error in that Table.

The FAA has not been able to confirm the commenter's findings. The cyclic intervals for the Table 5 requirements are A; 3,500 cycles, B; 3,000 cycles, C; 3,000 cycles, D; 2,500 cycles, E; 2,500 cycles, F; 2,000 cycles, and G; 2,000 cycles. These intervals are as intended.

### **Concern About Misinterpretation of the Inspection Deadline**

One commenter states that one of the requirements of this proposed rule may be misread as extending the inspection deadline of AD 2000-16-12 to beyond July 28, 2001. The commenter also suggests that if all the high-risk spools have been inspected, the proposed rule should be expedited, since one year has passed since the deadline of AD 2000-16-12.

The FAA agrees with the commenter on the need to expedite issuance of this AD. While the statement in the Discussion Section of the preamble of the proposal may be misinterpreted, the preamble is not regulatory and in fact, even the structure of the preamble changes when an NPRM is converted into a final rule. However, we have made changes to the statement in the Supplementary Information section to clarify the intent of this final rule. The intent of the proposed rule is to apply the same requirement on the population of the spools that would acquire 7,000 CSN after July 28, 2001. In regard to the comment inquiring if all spools have been inspected, we are not aware of any spool with 7,000 CSN or more that has not been inspected as required by AD 2000-16-12.

### **Request To Include Fluorescent Penetrant Inspection (FPI) Requirements**

One commenter suggests that AD 95-18-14 that addresses FPI of the 3-9 spool should be included, since Standard Practices are only a suggestion and not a law. The commenter makes this comment out of concern that under this proposed rule the benefit of an additional inspection is eliminated.

The FAA does not agree. The requirements promulgated by AD 95-18-14 ensure that a spool is properly wetted internally prior to the FPI. Although FPI of the 3-9 spool is desired for the areas not affected by this AD, FPI is not the best technique for the inspection program established by this AD. While FPI is effective only for detection of surface cracks, the combination of ultrasonic and eddy current inspections required by this AD provide both surface and subsurface inspections that are of equal or greater sensitivity than FPI. The FPI required by AD 95-18-14 was an emergency measure instituted in 1995 after discovery of cracking in the disk web area, an area not then covered by

ultrasonic and eddy current inspections. These inspection methods were subsequently developed and incorporated into the inspection plan. Additionally, AD 95-18-14 did not prescribe inspection intervals, only inspection techniques, therefore, the benefit of AD 95-18-14 was not considered in the risk analysis associated with the current AD's.

### **Additional Spool Part Numbers (P/N's) as a Result of Unrelated Repairs**

One commenter expresses a concern that additional spool P/N's, which have been generated due to unrelated repairs on spools that are subject to the inspection requirements of this AD, are not being captured by the AD. The commenter feels that these P/N's should be added to the AD. The commenter raises this issue to ensure that spools with P/N's that were not included in the proposed rule are not excluded from this inspection program.

The FAA agrees. The new P/N's will be incorporated in this AD. However, their incorporation does not increase the originally affected spool population size.

### **New Revisions to the Applicable Service Bulletins**

One commenter, the manufacturer, advises the FAA that the applicable service bulletins may be revised for nontechnical reasons. The commenter feels that the latest revisions of the service bulletins need to be incorporated into the AD.

The FAA agrees. The revision numbers and dates have been incorporated into this final rule.

### **Request To Change Paragraph (j)(2)**

One commenter requests that paragraph (j)(2) be changed to ensure that the hub and web receive an initial inspection if either of the two areas were not previously inspected. The same commenter suggests that paragraph (j)(2) be split into two paragraphs to properly specify the inspection deadlines for the hub and for the web, now that the originally proposed deadlines have been changed to accommodate the economic and operational burden associated with the web inspection.

The FAA agrees. We have changed paragraph (j)(2) of this AD. Because of the new schedule requirements, two paragraphs, each with its own schedule, are appropriate and the change has been made.

### **Request To Clarify "Replace Before Further Flight" Requirement on CF6-50 Spools**

One commenter observes that the "replace before further flight" requirements for the CF6-50 spools include the reject limits of service bulletin CF6-50 S/B 72-A1131, while the preceding paragraph does not include this service bulletin. The commenter raised this comment out of concern that the inspection requirement per service bulletin CF6-50 S/B 72-A1131 was not identified in the preceding step.

The FAA partially agrees. In the current text, an inference may be made that spools must be inspected to all three referenced bulletins at each repeat inspection. The spool disposition requirements apply to results of all prescribed inspections specified in all the steps of the pertinent paragraph in the AD and not just to the preceding step. Therefore, for further clarification a heading "Spool Disposition" has been inserted.

### **Request To Add a Heading of "Spool Reinstallation Limit"**

One commenter requests that the heading Spool Reinstallation Limit be added before the applicable paragraphs. The commenter feels that the addition will clarify the intent of the paragraphs.

The FAA agrees. We have added the heading to the applicable paragraphs.

## **Concern Over the Availability of Training and Equipment**

One commenter expresses concern that the requirements of ASB CF6-80C2 72-A0934, Revision 3, can not be done because the equipment and training necessary to carry out this inspection are not available at this time. The commenter makes this comment out of concern that the prescribed inspections could not be done, per the proposed rule timetables, since there was no scheduled delivery of the necessary equipment and associated training.

The FAA agrees. However, this issue has been addressed by the engine manufacturer. Both equipment and training will be available in time to enable the commenter to comply with the requirements of this AD, therefore, no changes have been made.

## **Request To Change the Definition of a Shop Visit**

One commenter states that the introduction of an engine into the shop solely for the 3-9 spool inspection should not be considered a shop visit. The request is made so that the stage 3-5 dovetail slot bottom inspection for the CF6-80C2 13-inch billet spools would not be forced if the spools could otherwise comply using the module level inspection. The hub and web inspections can be done at module level merely by removing the fan module from the core. The slot bottom inspection requires additional disassembly to remove the compressor top case. The request is made to avoid this additional disassembly.

The FAA disagrees. Material testing and stress analysis indicate that the dovetail slot bottoms have a dwell-fatigue limitation. Accordingly, the rule requires initial slot bottom inspection at the earliest exposure (piece-part exposure or rotor exposure, which is realized upon top case removal) but not later than the next required inspection of the hub and/or web for dwell fatigue cracking. As the cracking mode is the same for all areas, the FAA can not apply lesser criteria to the slot bottoms.

## **Request To Include the 3-5 Dovetail Slot Bottom Inspection at Piece-Part Level Only**

One commenter requests that the repeat inspection of the CF6-80C 13-inch billet spool stage 3-5 dovetail slot bottoms be required at piece-part exposure only. Accomplishment of this inspection at a module level would require, at a minimum, the removal of the compressor top case.

The FAA disagrees for reasons stated in the answer to the previous comment.

## **Request To Clarify the Reference Date for the Initial Inspection**

One commenter states that there is no reference date for the initial inspection required in paragraph (a)(3) from which the operator is to determine items (i), (ii), and (iii) under this paragraph. The commenter uses the example that item (i) requires an inspection at the first piece-part exposure (PPE) after 1,000 CSN. The spool may have had several PPE's after 1,000 CSN in its life but never had the requirement to inspect at those visits. The commenter requests clarification of the reference date in this paragraph to ensure the proper time set.

The FAA disagrees. The proposal does not contain new requirements. It consolidates requirements of existing airworthiness directives, which include paragraph (a)(3). In the past, if an opportunity to have a PPE arose as the commenter states, the requirement of AD 99-24-15 would have been applicable. Additionally, the cyclic requirements of steps (i) and (ii) are associated with the cyclic life of the spool and not an independent cyclic interval. The third step (iii) also does not need the association with the effective date of this AD. Incorporation of the change the commenter proposes would conflict with requirements of the existing AD relative to the dovetail inspection. The proposed change would also affect additional paragraphs of the rule, not identified by the commenter, where similar arguments can be made.

## **Potential Confusion Over Requirements for Piece-Part Inspections**

One commenter, the manufacturer, informs the FAA that a potential for confusion exists regarding the requirements for the one-time hub inspection of 8-inch billet spools. The existing wording in certain ASB's could be interpreted such that a modular level inspection of the hub could be performed, when in fact, piece-part inspection using Procedure A is required to achieve the intended level of safety. The manufacturer has revised the appropriate ASB's to add this clarification and suggests additional wording be added to this rule to ensure the correct procedure is used.

The FAA agrees. We have clarified the hub inspection requirements for affected spools in paragraphs (d)(1), (h)(1), (k)(1), and (m)(1).

## **Request To Correct P/N's and SN's for CF6-50 16-Inch and 13-Inch Billets**

The same commenter states that the part number and serial number relationships for the CF6-50 16-inch and 13-inch billet spools relative to Table 2 were incorrect in the information that it sent to the FAA and need to be corrected in paragraphs (a) and (b), respectively.

The FAA agrees. We have made the appropriate changes to the final rule.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

## **Cost Analysis**

There are approximately 3,147 engines of the affected design in the worldwide fleet. The FAA estimates that 1,289 engines installed on airplanes of U.S. registry would be affected by this proposed AD. The FAA also estimates that it would take approximately 238 work hours per engine to perform the proposed actions. The average labor rate is \$60 per work hour. Required parts would cost approximately \$35,000 per engine. In addition, because of the previous AD actions, the FAA estimates that only 72 percent (928 engines) of the engines installed on airplanes of U.S. registry would be affected. Based on these figures, the total cost of the proposed AD on U.S. operators is estimated to be \$45,731,840.

## **Regulatory Analysis**

This final rule does not have federalism implications, as defined in Executive Order 13132, because it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. Section 39.13 is amended by removing Amendments 39-9361 (60 FR 46216, September 6, 1995), 39-11440 (64 FR 66554, November 29, 1999), and 39-11868 (65 FR 50623, August 21, 2000), and by adding a new airworthiness directive, Amendment 39-12984, to read as follows:

# AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "www.faa.gov"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2002-25-08 General Electric Company (GE):** Docket No. 2001-NE-26-AD. Supersedes AD 95-18-14, Amendment 39-9361; AD 99-24-15, Amendment 39-11440; and AD 2000-16-12, Amendment 39-11868.

**Applicability:** This airworthiness directive (AD) is applicable to GE CF6-45, -50, -80A, -80C2, and -80E1 turbofan engines with high pressure compressor rotor (HPCR) stage 3-9 spools with part numbers (P/N's) listed in the following Table 1 installed:

**TABLE 1**

<b>Engine model</b>	<b>HPCR stage 3-9 spool P/N</b>
CF6-45/50 Series Engines	9136M89G02, 9136M89G03, 9136M89G06, 9136M89G07, 9136M89G08, 9136M89G09, 9136M89G17, 9136M89G18, 9136M89G19, 9136M89G21, 9136M89G22, 9136M89G27, 9136M89G29, 9253M85G01, 9253M85G02, 9273M14G01, 9331M29G01.
CF6-80A Series Engines	9136M89G10, 9136M89G11, 9136M89G20, 9136M89G21, 9136M89G22, 9136M89G27, 9136M89G28
CF6-80C2 Series Engines	1333M66G01, 1333M66G03, 1333M66G07, 1333M66G09, 1333M66G10, 1781M52P01, 1781M52P02, 1781M53G01, 1781M53G02, 1781M53G03, 1781M53G04, 1781M53G05, 1781M53G06, 1781M53G07, 1781M53G08, 1781M53G09, 1781M53G10, 1854M95P01, 1854M95P02, 1854M95P03, 1854M95P04, 1854M95P05, 1854M95P06, 1854M95P07, 1854M95P08, 9380M28P05.
CF6-80E1 Series Engines	1669M22G01, 1669M22G03, 1782M22G01, 1782M22G02, 1782M22G04.

These engines are installed on, but not limited to, Airbus A300, A310, and A330 series, Boeing 747 and 767 series, and McDonnell Douglas DC-10 and MD-11 series airplanes.

**Note 1:** This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (p) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

**Compliance:** Compliance with this AD is required as indicated, unless already done.

To detect cracks, which can cause separation of the HPCR stage 3-9 spool and possible uncontained engine failure, do the following:

#### CF6-45 and -50 16-Inch Billet Spools

(a) For CF6 HPCR stage 3-9 spool, part numbers (P/N's) 9136M89G02 and 9136M89G06; and for P/N's 9136M89G08, 9253M85G02, 9273M14G01, 9331M29G01 with serial numbers (SN's) listed in the following Table 2, do the following:

**TABLE 2**

MPOE3486	MPOE3487	MPOE3488	MPOE3489	MPOE3490	MPOE3491	MPOE3492
MPOG3832	MPOG3833	MPOG3834	MPOG3835	MPOG3836	MPOG3837	MPOG3838
MPOG3839	MPOG3840	MPOG3841	MPOG3842	MPOG3843	MPOG3844	MPOG3845
MPOG3846	MPOG3847	MPOG3848	MPOG3850	MPOG3851	MPOG5228	MPOG5230
MPOG5231	MPOG5232	MPOG6216	MPOG6727	MPOG6728	MPOG6729	MPOG6730
MPOG6731	MPOG6732	MPOG6733	MPOG6735	MPOG6736	MPOG6738	MPOG6739
MPOG6740	MPOG6741	MPOG6742	MPOG6743	MPOG6744	MPOG6745	MPOG6746
MPOG7713	MPOG7714	MPOG7715	MPOG7716	MPOG7717	MPOG7718	MPOG7719
MPOG7720	MPOG7721	MPOG7722	MPOG7723	MPOG7724	MPOG7725	MPOG7726
MPOG7727	MPOG7728	MPOG7729	MPOG7730	MPOG7731	MPOG7732	MPOG7733
MPOG7734	MPOG7735	MPOG7736	MPOG7737	MPOG7738	MPOG7739	MPOG7740
MPOG7741	MPOG7742	MPOG7743	MPOG7744	MPOG7819	MPOG7820	MPOG7821
MPOG7822	MPOG7823	MPOG7824	MPOG7825	MPOG7826	MPOG7827	MPOG7828
MPOG7829	MPOG7830	MPOG7831	MPOG7832	MPOG7833	MPOG7834	MPOG7835
MPOG7836	MPOG7837	MPOG7838	MPOG7839	MPOG8822	MPOG8823	MPOG8824
MPOG8825	MPOG8826	MPOG8827	MPOG8828	MPOG8829	MPOG8830	MPOG8831
MPOG8832	MPOG8833	MPOG8834	MPOG8835	MPOG8836	MPOG8837	MPOG9185
MPOG9186	MPOH0289	MPOH0290	MPOH0291	MPOH0292	MPOH0293	MPOH0294
MPOH0295	MPOH0296	MPOH0297	MPOH0298	MPOH0299	MPOH0300	MPOH0301
MPOH0302	MPOH0303	MPOH0304	MPOH0305	MPOH1805	MPOH2040	MPOH2041
MPOH2042	MPOH2043	MPOH2044	MPOH2045	MPOH2046	MPOH2047	MPOH2048
MPOH2049	MPOH2050	MPOH2051	MPOH2052	MPOH2053	MPOH2054	MPOH2055
MPOH2056	MPOH2057	MPOH2058	MPOH2059	MPOH2060	MPOH2061	MPOH2062
MPOH2829	MPOH2830	MPOH2831	MPOH2832	MPOH2833	MPOH2834	MPOH2835
MPOH2836	MPOH2837	MPOH2838	MPOH2839	MPOH2840	MPOH2841	MPOH2842
MPOH2843	MPOH2844	MPOH2845	MPOH2846	MPOH2847	MPOH2848	MPOH2849
MPOH2850	MPOH2851	MPOH2852	MPOH2853	MPOH2854	MPOH2855	MPOH2856
MPOH2857	MPOH2858	MPOH4307	MPOH4308	MPOH4309	MPOH4310	MPOH4311
MPOH4312	MPOH4313	MPOH5277	MPOH5278	MPOH5279	MPOH5280	MPOH5281
MPOH5282	MPOH5283	MPOH5520	MPOH5530	MPOH5531	MPOH5532	MPOH5533
MPOH5534	MPOH5535	MPOH5536	MPOH5537	MPOH5538	MPOH5539	MPOH5540
MPOH5541	MPOH5542	MPOH5543	MPOH5544	MPOH5545	MPOH5546	MPOH5547
MPOH5548	MPOH5549	MPOH5550	MPOH5551	MPOH5552	MPOH5553	MPOH5554
MPOH7020	MPOH7021	MPOH7022	MPOH7023	MPOH7024	MPOH7025	MPOH7026
MPOH7027	MPOH7028	MPOH7030	MPOH7960	MPOH7965	MPOH7966	MPOH7967
MPOH7968	MPOH7969	MPOH7970	MPOH7971	MPOH7972	MPOH7973	MPOH7974
MPOH7975	MPOH8638	MPOH8639	MPOH8640	MPOH8641	MPOH8642	MPOH8643
MPOH8644	MPOH8645	MPOH8646	MPOH8647	MPOH8648	MPOH8649	MPOH8650
MPOH8651	MPOH8652	MPOH8653	MPOH8654	MPOH8655	MPOH8656	MPOH8657

MPOH8658	MPOH8659	MPOH8677	MPOH8678	MPOH8679	MPOH8680	MPOH8682
MPOH8683	MPOH8684	MPOJ1796	MPOJ1797	MPOJ1798	MPOJ1799	MPOJ1800
MPOJ1801	MPOJ1803	MPOJ1804	MPOJ1806	MPOJ1930	MPOJ1931	MPOJ1932
MPOJ1933	MPOJ1934	MPOJ1935	MPOJ1936	MPOJ1938	MPOJ1939	MPOJ1940
MPOJ1941	MPOJ1942	MPOJ1943	MPOJ1944	MPOJ1945	MPOJ1946	MPOJ1947
MPOJ1948	MPOJ1949	MPOJ1950	MPOJ1951	MPOJ1953	MPOJ1954	MPOJ1955
MPOJ1956	MPOJ1957	MPOJ1958	MPOJ2420	MPOJ2421	MPOJ2422	MPOJ2423
MPOJ2424	MPOJ2425	MPOJ2426	MPOJ2427	MPOJ2428	MPOJ2429	MPOJ2430
MPOJ2431	MPOJ2432	MPOJ2433	MPOJ2434	MPOJ2435	MPOJ2436	MPOJ2437
MPOJ2438	MPOJ2439	MPOJ2440	MPOJ2441	MPOJ2442	MPOJ2443	MPOJ2444
MPOJ2445	MPOJ2446	MPOJ2447	MPOJ2448	MPOJ2449	MPOJ2450	MPOJ4173
MPOJ4174	MPOJ5185	MPOJ5186	MPOJ6035	MPOJ6036	MPOJ6039	MPOJ6040
MPOJ6041	MPOJ6042	MPOJ6043	MPOJ6044	MPOJ6045	MPOJ6046	MPOJ6047
MPOJ6048	MPOJ6049	MPOJ6050	MPOJ6051	MPOJ6052	MPOJ6053	MPOJ6054
MPOJ6055	MPOJ6056	MPOJ6057	MPOJ6058	MPOJ6059	MPOJ6060	MPOJ6061
MPOJ6062	MPOJ6063	MPOJ6064	MPOJ6065	MPOJ6066	MPOJ6067	MPOJ6068
MPOJ6500	MPOJ6501	MPOJ6502	MPOJ6503	MPOJ6505	MPOJ6506	MPOJ6507
MPOJ6508	MPOJ6509	MPOJ6510	MPOJ6511	MPOJ6512	MPOJ6513	MPOJ6514
MPOJ6515	MPOJ6516	MPOJ6517	MPOJ7632	MPOJ7633	MPOJ7634	MPOJ7635
MPOJ7636	MPOJ7637	MPOJ7638	MPOJ7639	MPOJ7640	MPOJ7641	MPOJ7642
MPOJ7643	MPOJ8046	MPOJ8047	MPOJ8048	MPOJ8049	MPOJ8050	MPOJ8051
MPOJ9308	MPOJ9309	MPOJ9310	MPOJ9311	MPOJ9312	MPOJ9313	MPOJ9314
MPOJ9315	MPOK1233	MPOK1234	MPOK1235	MPOK1236	MPOK1237	MPOK1238
MPOK1239	MPOK1240	MPOK1824	MPOK1825	MPOK1826	MPOK1827	MPOK1828
MPOK1829	MPOK1830	MPOK1831	MPOK1832	MPOK2694	MPOK2695	MPOK3067
MPOK3068	MPOK3069	MPOK3070	MPOK3071	MPOK4659	MPOK4660	MPOK4661
MPOK4662	MPOK4663	MPOK4664	MPOK4665	MPOK4666	MPOK4667	MPOK5082
MPOK5083	MPOK5084	MPOK5085	MPOK5086	MPOK5087	MPOK5088	MPOK5520
MPOK5521	MPOK5522	MPOK5955	MPOK5956	MPOK5957	MPOK5958	MPOK5959
MPOK5960	MPOK5961	MPOK5962	MPOK5963	MPOK5964	MPOK6247	MPOK6248
MPOK6249	MPOK6250	MPOK6251	MPOK6252	MPOK6253	MPOK6254	MPOK6255
MPOK6256	MPOK6257	MPOK6715	MPOK6716	MPOK6823	MPOK6824	MPOK6825
MPOK6826	MPOK6827	MPOK6828	MPOK6829	MPOK6830	MPOK6831	MPOK7226
MPOK7227	MPOK7228	MPOK7229	MPOK7230	MPOK7231	MPOK7232	MPOK7233
MPOK7234	MPOM2128	MPOM2129	MPOM2130	MPOM2131	MPOM2132	MPOM2133
MPOM2134	MPOM2135	MPOM2136	MPOM2137	MPOM2138	MPOM2357	MPOM2358
MPOM2359	MPOM2360	MPOM2361	MPOM2362	MPOM2363	MPOM2364	MPOM2365
MPOM2366	MPOM2461	MPOM2462	MPOM5521	MPOM5522	MPOM5523	MPOM5524
MPOM5525	MPOM5526	MPOM5527	MPOM5528	MPOM5529	MPOM5530	MPOM5531
MPOM5532	MPOM5533	MPOM5534	MPOM5535	MPOM5536	MPOM5537	MPOM6151
MPOM6152	MPOM6153	MPOM6154	MPOM6155	MPOM6156	MPOM6157	MPOM6158
MPOM6159	MPOM6160	MPOM6161	MPOM6162	MPOM7087	MPOM7088	MPOM7089
MPOM7091	MPOM7092	MPOM7093	MPOM7094	MPOM7095	MPOM7096	MPOM7097
MPOM7098	MPOM7099	MPOM7100	MPOM7101	MPOM7102	MPOM7103	MPOM7104
MPOM7105	MPOM7106	MPOM7107	MPOM7108	MPOM7109	MPOM8297	MPOM8298
MPOM8299	MPOM8300	MPOM8301	MPOM8302	MPOM9246	MPOM9257	MPOM9258
MPOM9259	MPOM9260	MPOM9261	MPOM9262	MPOM9265	MPOM9721	MPOM9722
MPOM9723	MPON0051	MPON0052	MPON0053	MPON0055	MPON0056	MPON0057
MPON0058	MPON0059	MPON0060	MPON0061	MPON0062	MPON0063	MPON0064
MPON0065	MPON0066	MPON0067	MPON0068	MPON0069	MPON0073	MPON0074

MPON0075	MPON0076	MPON1077	MPON1078	MPON1079	MPON1080	MPON1081
MPON1082	MPON1084	MPON1085	MPON1086	MPON1087	MPON1088	MPON1089
MPON1090	MPON1091	MPON1092	MPON1093	MPON1094	MPON1095	MPON1096
MPON1097	MPON1098	MPON1099	MPON1100	MPON1642	MPON4250	MPON4252
MPON4254	MPON4255	MPON4256				

### *Initial Inspection*

(1) If the spool has not already been inspected using one of the alert service bulletins (ASB's) or service bulletins (SB's) listed in Column A of the following Table 3; OR a combination of one procedure from Column B and one from Column C; OR a combination of one procedure from Column D and one from Column E, inspect hub and bore in accordance with alert service bulletin

(ASB) CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002, and the following compliance times:

**TABLE 3**

<b>CF6-45 and -50 SB No.</b>		<b>Procedures (70-32-XX) in Standard Practices Manual GEK9250</b>			
Column A	Column B	Column C	Column D	Column E	
SB 72-888, Revision 3, dated January 31, 1991.	70-32-09, Revision 71, dated October 1, 1995.	70-32-10, 71, Revision dated October 1, 1995.	70-32-13, Temporary Revision (TR), 70-25, dated August 26, 1996.	70-32-14, TR 70- 26, dated August 26, 1996.	
SB 72-888, Revision 4, dated March 28, 1991.	70-32-09, Revision 72, dated November 15, 1996.	70-32-10, Revision 72, dated November 15, 1996.	70-32-13, Revision 72, dated November 15, 1996.	70-32-14, Revision 72, dated November 15, 1996.	
SB 72-888, Revision 5, dated November 7, 1994.	70-32-09, Revision 74, dated May 1, 1998.	70-32-10, Revision 74, dated May 1, 1998.	70-32-13, Revision 73, dated November 1, 1997.	70-32-14, Revision 73, dated November 1, 1997.	
SB 72-888, Revision 6, dated December 22, 1995.		70-32-10, Revision 75, dated December 15, 1998.	70-32-13, Revision 75, dated December 15, 1998.	70-32-14, Revision 75, dated December 15, 1998.	
SB 72-1000, Original dated December 14, 1990.			70-32-13, TR 70- 41, dated February 10, 1999.	70-32-14, TR 70- 42, dated February 10, 1999.	
SB 72-1000, Revision 1, dated March 28, 1991.			70-32-13, Revision 76, dated May 15, 1999.	70-32-14, Revision 76, dated May 15, 1999.	
SB 72-1000, Revision 2, dated September 9, 1993.			70-32-17, TR 70- 39, dated December 15, 1998.	70-32-18, TR 70- 40, dated December 15, 1998.	
SB 72-1000, Revision 3, dated December 22, 1995.			70-32-17, Revision 76, dated May 15, 1999.	70-32-18, Revision 76, dated May 15, 1999.	
SB 72-1108, Original, dated November 6, 1995.			70-32-17, TR 70- 47, dated October 28, 1999.	70-32-18, TR 70- 48, dated October 28, 1999.	

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SB 72-1108,  
Revision 1, dated  
July 29, 1996.

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ASB 72-A1108,  
Revision 2, dated  
October 28, 1999.

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ASB 72-A1108,  
Revision 3, dated  
November 12, 1999.

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ASB 72-A1108,  
Revision 4, dated  
June 6, 2001.

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ASB CF6-50 S/B  
72- A1108,  
Revision 5, dated  
October 2, 2002.

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(i) For spools with greater than 3,500 cycles-since-new (CSN) on the effective date of this AD, inspect before further flight.

(ii) For spools with 3,500 or fewer CSN, on the effective date of this AD, inspect at the first piece-part exposure (PPE) after 1,000 CSN or before 3,500 CSN, whichever occurs earlier.

(2) For spools that have not been inspected using ASB CF6-50 S/B 72-A1131, Revision 4, dated October 2, 2002, or an earlier revision of ASB CF6-50 S/B 72-A1131 or SB 72-1131, inspect the web and hub-to-web transition areas in accordance with the requirements of ASB CF6-50 S/B 72-A1131, Revision 4, dated October 2, 2002, at the first PPE after 1,000 CSN, but before 4,000 additional cycles in-service (CIS) after the effective date of this AD.

(3) For spools that have not been inspected using ASB CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002, or an earlier revision of ASB CF6-50 S/B 72-A1157, inspect the stage 3-5 dovetail slot bottoms in accordance with the requirements of ASB CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002, at the earliest of:

(i) The first PPE after 1000 CSN, or

(ii) The first HPC rotor exposure after 1000 CSN, or

(iii) The next required inspection to ASB CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002.

#### *Repetitive Inspection*

(4) For spools that have already been inspected using one of the ASB's or SB's listed in Column A of Table 3; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, reinspect the hub and bore in accordance with the requirements of ASB CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002, and the stage 3-5 dovetail slot bottoms in accordance with ASB CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002, at the earliest of:

(i) Each PPE with more than 1,000 cycles-since-last-inspection (CSLI) and 3,500 CSN, or

(ii) From July 29, 2001 through January 27, 2003, before the cycle limits of the following Table 4:

**TABLE 4**

<b>CSN at last inspection</b>	<b>Repeat inspection by</b>
(A) 6,000 or fewer CSN	3,500 CSLI.
(B) 6,001 to 7,000 CSN	9,500 CSN.
(C) 7,001 to 8,000 CSN	2,500 CSLI.
(D) 8,001 to 8,500 CSN	10,500 CSN.
(E) 8,501 or more CSN	2,000 CSLI.

(iii) After January 27, 2003, before the cycle limits of the following Table 5:

**TABLE 5.**

<b>CSN at last inspection</b>	<b>Repeat inspection by</b>
(A) 5,000 or fewer CSN	3,500 CSLI.
(B) 5,001 to 5,500 CSN	8,500 CSN.
(C) 5,501 to 6,500 CSN	3,000 CSLI.
(D) 6,501 to 7,000 CSN	9,500 CSN.
(E) 7,001 to 8,000 CSN	2,500 CSLI.
(F) 8,001 to 8,500 CSN	10,500 CSN.
(G) 8,501 or more CSN	2,000 CSLI.

### *Spool Disposition*

(5) If inspection findings equal or exceed the reject limits established by ASB CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002; or ASB CF6-50 S/B 72-A1131, Revision 4, dated October 2, 2002; or ASB CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002, replace spool before further flight.

### **CF6-45 and -50 13-inch Billet Spools**

(b) For CF6 HPC Rotor Stage 3-9 Spool, P/N's 9136M89G03, 9136M89G07, 9136M89G09, 9136M89G17, 9136M89G18, 9253M85G01, and for P/N's 9136M89G08, 9253M85G01, 9273M14G01, and 9331M29G01 with serial numbers that are not listed in Table 2, do the following:

### *Initial Inspection*

(1) If the spool has greater than 7,000 CSN on the effective date of this AD and has not already been inspected using one of the ASB's or SB's listed in Column A of Table 3; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, inspect hub and bore in accordance with ASB CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002 before further flight.

(2) If the spool has 7,000 or fewer CSN on the effective date of this AD and has not already been inspected using one of the ASB's or SB's listed in Column A of Table 3; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, inspect hub and bore in accordance with ASB CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002, at the earliest of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first engine shop visit (ESV) after 4,000 CSN, or
- (iii) From July 29, 2001, through January 27, 2003, before 7,000 CSN, and after January 27, 2003, before 4,000 CSN.

(3) For spools that have not been inspected using ASB CF6-50 S/B 72-A1131, Revision 4, dated October 2, 2002, or an earlier revision of ASB CF6-50 S/B 72-A1131 or SB 72-1131, inspect the web and hub-to-web transition areas in accordance with the requirements of ASB CF6-50 S/B 72-A1131, Revision 4, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) Within 4,000 additional CIS after the effective date of this AD.

(4) For spools that have not been inspected using ASB CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002, or an earlier revision of ASB CF6-50 S/B 72-A1157, inspect the stage 3-5 dovetail slot bottoms in accordance with the requirements of ASB CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) Within 4,000 additional CIS after the effective date of this AD.

#### *Repetitive Inspection*

(5) For spools that have already been inspected using one of the ASB's or SB's listed in Column A of Table 3; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, reinspect the hub and bore in accordance with the requirements of ASB CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002, at the earliest of:

- (i) Each PPE with more than 1,000 CSLI and 4,000 CSN, or
- (ii) Each ESV with more than 2,000 CSLI and 4,000 CSN, or
- (iii) Before 4,000 CSLI.

#### *Spool Disposition*

(6) If inspection findings equal or exceed the reject limits established by ASB CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002; or ASB CF6-50 S/B 72-A1131, Revision 4, dated October 2, 2002; or ASB CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002, replace spool before further flight.

#### **CF6-45 and -50 9 and 10-Inch Billet Spools**

(c) For CF6 HPCR stage 3-9 spool, P/N's 9136M89G19, 9136M89G21, 9136M89G22 and 9136M89G27, do the following:

#### *Initial Inspection*

(1) If the spool has greater than 7,000 CSN on the effective date of this AD and has not already been inspected using one of the ASB's or SB's listed in Column A of Table 3; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, inspect the hub and bore in accordance with ASB CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002 before further flight.

(2) If the spool has 7,000 or fewer CSN on the effective date of this AD, and has not already been inspected using one of the ASB's or SB's listed in Column A of Table 3; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, inspect the hub and bore in accordance with ASB CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002, at the earliest of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 3,000 CSN, or
- (iii) From July 29, 2001 through January 27, 2003, before 7,000 CSN, and after January 27, 2003, before 3,500 CSN.

(3) For spools that have not been inspected using ASB CF6-50 S/B 72-A1131, Revision 4, dated October 2, 2002, or an earlier revision of ASB CF6-50 S/B 72-A1131 or SB CF6-50 S/B 72-1131, inspect the web and hub-to-web transition areas in accordance with the requirements of ASB CF6-50 S/B 72-A1131, Revision 4, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) Within 4,000 additional CIS after the effective date of this AD.

(4) For spools that have not been inspected using ASB CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002, or an earlier revision of ASB CF6-50 S/B 72-A1157, inspect the stage 3-5 dovetail slot bottom in accordance with the requirements of ASB CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) Within 4,000 additional CIS after the effective date of this AD.

#### *Repetitive Inspection*

(5) For spools that have already been inspected using one of the ASB's or SB's listed in Column A of Table 3; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, reinspect the hub and bore in accordance with the requirements of ASB CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002, at the earliest of:

- (i) Each PPE with more than 1,000 CSLI and 3,500 CSN, or
- (ii) From July 29, 2001, through January 27, 2003, before the cycle limits of the following Table 6, or:

<b>TABLE 6</b>	
<b>CSN at last inspection</b>	<b>Reinspect by</b>
(A) 3,500 or fewer CSN	7,000 CSN.
(B) 3,501 to 6,000 CSN	3,500 CSLI.
(C) 6,001 to 7,000 CSN	9,500 CSN.
(D) 7,001 to 8,000 CSN	2,500 CSLI.
(E) 8,001 to 8,500 CSN	10,500 CSN.
(F) 8,501 or more CSN	2,000 CSLI.

- (iii) After January 27, 2003, before the cycle limits of Table 5.

#### *Spool Disposition*

(6) If inspection findings equal or exceed the reject limits established by ASB CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002; or ASB CF6-50 S/B 72-A1131, Revision 4, dated October 2, 2002; or ASB CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002; replace spool before further flight.

#### *Spool Reinstallation Limit*

(7) After the effective date of this AD, do not install any engine that has an HPCR stage 3-9 spool, P/N's 9136M89G19, 9136M89G21, 9136M89G22, and 9136M89G27, installed where the spool has 10,500 or more CSN.

## CF6-45 and -50 8-Inch Billet 2-Piece spools

(d) For CF6 HPCR stage 3-9 spool, P/N 9136M89G29, do the following:

(1) If the spool has not already been inspected using one of the ASB's or SB's listed in Column A of Table 3; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, inspect hub and bore in accordance with the piece-part level inspection of ASB CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 6,000 CSN.

(2) For spools that have not been inspected using ASB CF6-50 S/B 72-A1131, Revision 4, dated October 2, 2002, or an earlier revision of ASB CF6-50 S/B 72-A1131 or SB 72-1131, inspect the web and hub-to-web transition areas in accordance with the requirements of ASB CF6-50 S/B 72-A1131, Revision 4, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 6,000 CSN.

(3) For spools that have not been inspected using ASB CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002, or an earlier revision of ASB 72-A1157, inspect the stage 3-5 dovetail slot bottom in accordance with the requirements of ASB CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 6,000 CSN.

### *Spool Disposition*

(4) If inspection findings equal or exceed the reject limits established by ASB CF6-50 S/B 72-A1108, Revision 5, dated October 2, 2002; or ASB CF6-50 S/B 72-A1131, Revision 4, dated October 2, 2002; or ASB CF6-50 S/B 72-A1157, Revision 4, dated October 2, 2002; replace spool before further flight.

## CF6-80A 16-Inch Billet Spools

(e) For CF6 HPCR stage 3-9 spool, P/N's 9136M89G10 with SN's MPOM0054, MPOM7090, MPOM8303, MPOM8304, MPOM9263, MPOM9264, MPON0054, MPON0071, MPON0072, MPON1643, MPON4251, or MPON4253, do the following:

### *Initial Inspection*

(1) If the spool has not already been inspected using one of the ASB's or SB's listed in Column A of the following Table 7; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, inspect hub and bore in accordance with ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002, and the following compliance times:

**TABLE 7**

<b>CF6-80A SB No.</b>	<b>Procedures (70-32-XX) in standard practices manual GEK9250</b>			
Column A	Column B	Column C	Column D	Column E
SB 72-500, Revision 3, dated March 19, 1991.	70-32-09, Revision 71, dated October 1, 1995.	70-32-10, Revision 71, dated October 1, 1995.	70-32-13, Temporary Revision (TR), 70-25, dated August 26, 1996.	70-32-14, TR 70-26, dated August 26, 1996.

SB 72-500, Revision 4, dated July 1, 1991.	70-32-09, Revision 72, dated November 15, 1996.	70-32-10, Revision 72, dated November 15, 1996.	70-32-13, Revision 72, dated November 15, 1996.	70-32-14, Revision 72, dated November 15, 1996.
SB 72-500, Revision 5, dated November 7, 1994.	70-32-09, Revision 74, dated May 1, 1998.	70-32-10, Revision 74, dated May 1, 1998.	70-32-13, Revision 73, dated November 1, 1997.	70-32-14, Revision 73, dated November 1, 1997.
SB 72-500, Revision 6, dated December 22, 1995.		70-32-10, Revision 75, dated December 15, 1998.	70-32-13, Revision 75, dated December 15, 1998.	70-32-14, Revision 75, dated December 15, 1998.
SB 72-583, Original, dated December 20, 1990.			70-32-13, TR 70- 41, dated February 10, 1999.	70-32-14, TR 70- 42, dated February 10, 1999.
SB 72-583, Revision 1, dated March 18, 1991.			70-32-13, Revision 76, dated May 15, 1999.	70-32-14, Revision 76, dated May 15, 1999.
SB 72-583, Revision 2, dated July 15, 1991.			70-32-17, TR 70- 39, dated December 15, 1998.	70-32-18, TR 70- 40, dated December 15, 1998.
SB 72-583, Revision 3, dated July 24, 1991.			70-32-17, Revision 76, dated May 15, 1999.	70-32-18, Revision 76, dated May 15, 1999.
SB 72-583, Revision 4, dated September 15, 1993.			70-32-17, TR 70- 47, dated October 28, 1999.	70-32-18, TR 70- 48, dated October 28, 1999.
SB 72-583, Revision 5, dated December 22, 1995.				
SB 72-678, Original, dated November 6, 1995.				
SB 72-678, Revision 1, dated July 29, 1996.				
ASB 72-A678, Revision 2, dated October 28, 1999.				
ASB 72-A678, Revision 3, dated November 12, 1999.				
ASB 72-A0678, Revision 4, dated June 6, 2001.				
ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002.				

(i) For spools with greater than 3,500 CSN on the effective date of this AD, inspect before further flight.

(ii) For spools with 3,500 or fewer CSN on the effective date of this AD, inspect at the first PPE after 1,000 CSN or before 3,500 CSN, whichever occurs earlier.

(2) For spools that have not been inspected using ASB CF6-80A S/B 72-A0691, Revision 5, dated October 2, 2002, or an earlier revision of ASB CF6-80A S/B 72-A0691 or SB 72-0691, inspect the web and hub-to-web transition areas in accordance with the requirements of ASB CF6-80A S/B 72-A0691, Revision 5, dated October 2, 2002, at the earlier of:

(i) The first PPE after 1,000 CSN, or

(ii) Within 4,000 additional CIS accumulated after the effective date of this AD.

(3) For spools that have not been inspected using ASB CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002, or an earlier revision of ASB CF6-80A S/B 72-A0719, inspect the stage 3–5 dovetail slot bottom in accordance with the requirements of ASB CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002, at the earliest of:

(i) The first PPE after 1,000 CSN, or

(ii) The first HPCR exposure after 1,000 CSN, or

(iii) The next required inspection to ASB

CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002.

### *Repetitive Inspections*

(4) For spools that have already been inspected using one of the ASB's or SB's listed in Column A of Table 7; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D and one from Column E, reinspect the hub and bore in accordance with the requirements of ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002; and the dovetail slot bottoms in accordance with the requirements of ASB CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002, at the earliest of:

(i) Each PPE with more than 1,000 CSLI and 3,500 CSN, or

(ii) From July 29, 2001 through January 27, 2003 before the cycle limits of Table 4, or

(iii) After January 27, 2003, before the cycle limits of Table 5.

### *Spool Disposition*

(5) If inspection findings equal or exceed the reject limits established by ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002; or ASB CF6-80A S/B 72-A0691, Revision 5, dated October 2, 2002; or ASB CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002; replace spool before further flight.

### *Spool Reinstallation Limit*

(6) After the effective date of this AD, do not install any engine that has an HPCR stage 3-9 spool P/N 9136M89G10 with serial numbers (SN's) MPOM0054, MPOM7090, MPOM8303, MPOM8304, MPOM9263, MPOM9264, MPON0054, MPON0071, MPON0072, MPON1643, MPON4251, or MPON4253, installed where the spool has 10,500 or more CSN.

### **CF6-80A 13-Inch Billet Spools**

(f) For all other CF6 HPCR stage 3-9 spools,

P/N 9136M89G10, with SN's that are not listed in paragraph (e) of this AD, and P/N 9136M89G11, do the following:

### *Initial Inspection*

(1) If the spool has greater than 7,000 CSN on the effective date of this AD and has not already been inspected using one of the ASB's or SB's listed in Column A of Table 7; OR a combination of one procedure from Column B and one from Column C; OR a combination of one procedure from Column D and one from Column E, inspect hub and bore in accordance with ASB CF6-80A 72-A0678, Revision 5, dated October 2, 2002 before further flight.

(2) If the spool has 7,000 or fewer CSN on the effective date of this AD and has not already been inspected using one of the ASB's or SB's listed in Column A of Table 7; OR a combination of one procedure from Column B and one from Column C; OR a combination of one procedure from Column D and one from Column E, inspect hub and bore in accordance with ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002, at the earliest of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 5,000 CSN or
- (iii) From July 29, 2001, through January 27, 2003 before 7,000 CSN, and after January 27, 2003, before 5,000 CSN.

(3) For spools that have not been inspected using ASB CF6-80A S/B 72-A0691, Revision 5, dated October 2, 2002, or an earlier revision of ASB CF6-80A S/B 72-A0691 or SB 72-0691, inspect the web and hub-to-web transition areas in accordance with the requirements of ASB CF6-80A S/B 72-A0691, Revision 5, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) Within 4,000 additional CIS after the effective date of this AD.

(4) For spools that have not been inspected using ASB CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002, or an earlier revision of ASB CF6-80A S/B 72-A0719, inspect the dovetail slot bottom in accordance with the requirements of ASB CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) Within 4,000 additional CIS after the effective date of this AD.

### *Repetitive Inspection*

(5) For spools installed in CF6-80A1 and CF6-80A3 engines that were inspected using one of the ASB's or SB's listed in Column A of Table 7; OR a combination of one procedure from Column B and one from Column C; OR a combination of one procedure from Column D and one from Column E, reinspect hub and bore in accordance with alert ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002, at the earliest of:

- (i) Each PPE with more than 1,000 CSLI and 5,000 CSN, or
- (ii) Each ESV with more than 2,000 CSLI and 5,000 CSN, or
- (iii) Within 4,000 CSLI and more than 5,000 CSN.

(6) Spools installed in CF6-80A and CF6-80A2 engines previously inspected using one of the ASB's or SB's listed in Column A of Table 7; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, reinspect hub and bore in accordance with ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002, at the earliest of:

- (i) Each PPE with more than 1,000 CSLI and 5,000 CSN, or
- (ii) Each ESV with more than 1,500 CSLI and 5,000 CSN, or
- (iii) Within 4,000 CSLI and more than 5,000 CSN.

## *Spool Disposition*

(7) If inspection findings equal or exceed the reject limits established by ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002; or ASB CF6-80A S/B 72-A0691, Revision 5, dated October 2, 2002; or ASB CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002; replace spool before further flight.

## **CF6-80A 9 and 10-Inch Billet Spools**

(g) For CF6 HPCR stage 3-9 spools, P/N's 9136M89G20, 9136M89G21, 9136M89G22 and 9136M89G27, do the following:

### *Initial Inspection*

(1) If the spool has greater than 7,000 CSN on the effective date of this AD and has not already been inspected using one of the ASB's or SB's listed in Column A of Table 7; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, inspect hub and bore in accordance with ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002 before further flight.

(2) If the spool has 7,000 or fewer CSN on the effective date of this AD and has not already been inspected using one of the ASB's or SB's listed in Column A of Table 7; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, inspect hub and bore in accordance with ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002, at the earliest of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 3,000 CSN or
- (iii) From July 29, 2001, through January 27, 2003, before 7,000 CSN, and after January 27, 2003, before 5,000 CSN.

(3) For spools that have not been inspected using ASB CF6-80A S/B 72-A0691, Revision 5, dated October 2, 2002, or an earlier revision of ASB CF6-80A S/B 72-A0691, or SB 72-0691, inspect the web and hub-to-web transition areas in accordance with the requirements of ASB CF6-80A S/B 72-A0691, Revision 5, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) Within 4,000 additional CIS after the effective date of this AD.

(4) For spools that have not been inspected using ASB CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002, or an earlier revision of ASB CF6-80A S/B 72-A0719 inspect the dovetail slot bottom in accordance with the requirements of ASB CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) Within 4,000 additional CIS after the effective date of this AD.

### *Repetitive Inspection*

(5) For spools that have already been inspected using one of the ASB's or SB's listed in Column A of Table 7; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, reinspect hub and bore in accordance with ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002, at the earliest of:

- (i) Each PPE with more than 1,000 CSLI and 5,000 CSN, or
- (ii) From July 29, 2001 through January 27, 2003, before the cycle limits of Table 6.
- (iii) After January 27, 2003, before the cycle limits of the following Table 8:

**TABLE 8**

<b>CSN at last inspection</b>	<b>Repeat inspection by</b>
(A) 1,500 or fewer CSN	5,000 CSN
(B) 1,501 to 5,000 CSN	3,500 CSLI
(C) 5,001 to 5,500 CSN	8,500 CSN
(D) 5,501 to 6,501 CSN	3,000 CSLI
(E) 6,501 to 7,000 CSN	9,500 CSN
(F) 7,001 to 8,000 CSN	2,500 CSLI
(G) 8,001 to 8,500 CSN	10,500 CSN
(H) 8,501 or more CSN	2,000 CSLI

### *Spool Disposition*

(6) If inspection findings equal or exceed the reject limits established by ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002; or ASB CF6-80A S/B 72-A0691, Revision 5, dated October 2, 2002; or ASB CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002; replace spool before further flight.

### *Spool Reinstallation Limit*

(7) After the effective date of this AD, do not install any engine that has an HPCR stage 3-9 spool, P/N's 9136M89G20, 9136M89G21, 9136M89G22, and 9136M89G27, installed where the spool has 10,500 or more CSN.

### **CF6-80A 8-Inch Billet 2-Piece Spools**

(h) For CF6 HPCR stage 3-9 spool, P/N 9136M89G28, do the following:

(1) If the spool has not already been inspected using one of the ASB's or SB's listed in Column A of Table 7; OR a combination of one procedure from Column B and one from Column C; OR a combination of one procedure from Column D and one from Column E, inspect hub and bore in accordance with the piece-part level inspection of ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 6,000 CSN.

(2) For spools that have not been inspected using ASB CF6-80A S/B 72-A0691, Revision 5, dated October 2, 2002, or an earlier revision of ASB CF6-80A S/B 72-A0691, or SB 72-0691, inspect the web and hub-to-web transition areas in accordance with the requirements of ASB CF6-80A S/B 72-A0691, Revision 5, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 6,000 CSN.

(3) For spools that have not been inspected using ASB CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002, or an earlier revision of ASB CF6-80A S/B 72-A0719 inspect the stage 3–5 dovetail slot bottom in accordance with the requirements of ASB CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 6,000 CSN.

## Spool Disposition

(4) If inspection findings equal or exceed the reject limits established by ASB CF6-80A S/B 72-A0678, Revision 5, dated October 2, 2002; or ASB CF6-80A S/B 72-A0691, Revision 5, dated October 2, 2002; or ASB CF6-80A S/B 72-A0719, Revision 5, dated October 2, 2002; replace spool before further flight.

### CF6-80C2 13-Inch Billet Spools

(i) For CF6 HPCR stage 3-9 spool, P/N's 1781M52P01, 1854M95P02, 1781M52P02, 1854M95P05 and 9380M28P05, do the following:

### Initial Inspection

(1) If the spool has not already been inspected using one of the ASB's or SB's listed in Column A of the following Table 9; OR a combination of one procedure from Column B and one from Column C; OR a combination of one procedure from Column D and one from Column E, inspect hub and bore in accordance with ASB CF6-80C2 S/B 72-A0812, Revision 4, dated October 2, 2002, and the following compliance times:

**TABLE 9**

<b>CF6-80C2 SB No.</b>	<b>Procedures (70-32-XX) in standard practices manual GEK9250</b>			
Column A	Column B	Column C	Column D	Column E
SB 72-418, Revision 2, May 14, 1991.	70-32-09, Revision 71, dated October 1, 1995.	70-32-10, Revision 71, dated October 1, 1995.	70-32-13, Temporary Revision (TR), 70-25, dated August 26, 1996.	70-32-14, TR 70-26, dated August 26, 1996.
SB 72-418, Revision 3, November 7, 1994.	70-32-09, Revision 72, dated November 15, 1996.	70-32-10, Revision 72, dated November 15, 1996.	70-32-13, Revision 72, dated November 15, 1996.	70-32-14, Revision 72, dated November 15, 1996.
SB 72-418, Revision 4, December 22, 1995.	70-32-09, Revision 74, dated May 1, 1998.	70-32-10, Revision 74, dated May 1, 1998.	70-32-13, Revision 73, dated November 1, 1997.	70-32-14, Revision 73, dated November 1, 1997.
SB 72-758, Original, dated November 7, 1994.		70-32-10, Revision 75, dated December 15, 1998.	70-32-13, Revision 75, dated December 15, 1998.	70-32-14, Revision 75, dated December 15, 1998.
SB 72-758, Revision 1, dated December 22, 1995.			70-32-13, TR 70-41, dated February 10, 1999.	70-32-14, TR 70-42, dated February 10, 1999.
SB 72-812, Original, dated November 6, 1995.			70-32-13, Revision 76, dated May 15, 1999.	70-32-14, Revision 76, dated May 15, 1999.
SB 72-812, Revision 1, dated January 30, 1998.			70-32-17, TR 70-39, dated December 15, 1998.	70-32-18, TR 70-40, dated December 15, 1998.

ASB 72-A0812, Revision 2, dated October 28, 1999.	70-32-17, Revision 76, dated May 15, 1999.	70-32-18, Revision 76, dated May 15, 1999.
ASB 72-A0812, Revision 3, dated June 6, 2001.	70-32-17, TR 70- 47, dated October 28, 1999.	70-32-18, TR 70- 48, October 28, 1999.
ASB CF6-80C2 S/B 72- A0812, Revision 4, dated October 2, 2002..		

(i) For spools with greater than 3,500 CSN on the effective date of this AD, inspect before further flight.

(ii) For spools with 3,500 or fewer CSN on the effective date of this AD, inspect at the first PPE after 1,000 CSN or before 3,500 CSN, whichever occurs earlier.

(2) For spools that have not been inspected using ASB CF6-80C2 S/B 72-A0848, Revision 8, dated October 2, 2002, or an earlier revision of ASB 72-A0848 or SB 72-0848, inspect the web and hub-to-web transition areas in accordance with the requirements of ASB CF6-80C2 S/B 72-A0848, Revision 8, dated October 2, 2002, at the earliest of:

(i) The first PPE after 1000 CSN, or

(ii) The next required inspection to ASB CF6-80C2 S/B 72-A0812, Revision 4, dated October 2, 2002, or

(iii) From July 29, 2001 through January 27, 2003, before 7,000 CSN, and after January 27, 2003, before 3,500 CSN.

(3) For spools that have not been inspected using ASB CF6-80C2 S/B 72-A0934, Revision 4, dated October 2, 2002, or an earlier revision of ASB 72-A0934, inspect the stage 3-5 dovetail slot bottom in accordance with the requirements of ASB CF6-80C2 S/B 72-A0934, Revision 4, dated October 2, 2002, at the earliest of:

(i) The first PPE after 1,000 CSN, or

(ii) The first HPCR exposure after 1,000 CSN, or

(iii) The next required inspection to ASB

CF6-80C2 S/B 72-A0812, Revision 4, dated October 2, 2002.

### *Repetitive Inspection*

(4) For spools that have already been inspected using one of the ASB's or SB's listed in Column A of Table 9; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, reinspect the hub and bore in accordance with ASB 72-A812, Revision 4, dated October 2, 2002; the web and hub-to-web transition areas in accordance with ASB CF6-80C2 S/B 72-A0848, Revision 8, dated October 2, 2002; and the stage 3-5 dovetail slot bottoms in accordance with ASB CF6-80C2 S/B 72-A0934, Revision 4, dated October 2, 2002, at the earliest of:

(i) Each PPE with more than 1,000 CSLI and 3,500 CSN, or

(ii) From July 29, 2001, through January 27, 2003, before the cycle limits of Table 4.

(iii) After January 27, 2003, before the cycle limits of Table 5.

### *Spool Disposition*

(5) If inspection findings equal or exceed the reject limits established by ASB CF6-80C2 S/B 72-A0812, Revision 4, dated October 2, 2002, or ASB CF6-80C2 S/B 72-A0848, Revision 8, dated October 2, 2002, or ASB CF6-80C2 S/B 72-A0934, Revision 4, dated October 2, 2002; replace spool before further flight.

### *Spool Reinstallation Limit*

(6) After the effective date of this AD, do not install any engine that has an HPCR stage 3-9 spool, P/N's 1781M52P01, 1781M52P02, 1854M95P02, 1854M95P05, and 9380M28P05, installed where the spool has 10,500 or more CSN.

### **CF6-80C2 9 and 10-Inch Billet Spools**

(j) For CF6 HPCR stage 3-9 spool, P/Ns 1333M66G01, 1333M66G03, 1333M66G07, 1333M66G09, 1781M53G01, 1781M53G02, 1781M53G03, 1781M53G04, 1781M53G06, 1781M53G07, 1781M53G08, 1781M53G09, 1854M95P01, 1854M95P03, 1854M95P04, 1854M95P06, and 1854M95P07, do the following:

### *Initial Inspection*

(1) If the spool has greater than 7,000 CSN on the effective date of this AD and has not already been inspected using one of the ASB's or SB's listed in Column A of Table 9; OR a combination of one procedure from Column B AND one from Column C; OR a combination of one procedure from Column D AND one from Column E, or if the spool has not been inspected using ASB CF6-80C2 S/B 72-A0848, Revision 8, dated October 2, 2002, or an earlier revision of ASB 72-A0848 or SB 72-0848, inspect the hub and bore in accordance with ASB CF6-80C2 S/B 72-A0812, Revision 4, dated October 2, 2002; and the web and hub-to-web transition areas in accordance with ASB CF6-80C2 S/B 72-A0848, Revision 8, dated October 2, 2002, before further flight.

(2) If the spool has 7,000 or fewer CSN on the effective date of this AD, and has not already been inspected using one of the ASB's or SB's listed in Column A of Table 9; OR a combination of one procedure from Column B and one from Column C; OR a combination of one procedure from Column D and one from Column E, inspect the hub and bore in accordance with ASB CF6-80C2 S/B 72-A0812, Revision 4, dated October 2, 2002, at the earliest of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 3,000 CSN, or
- (iii) From July 29, 2001, through January 27, 2003, before 7,000 CSN, and after January 27, 2003, before 3,500 CSN.

(3) If the spool has 7,000 or fewer CSN on the effective date of this AD, and has not already been inspected using ASB CF6-80C2 S/B 72-A0848, Revision 8, dated October 2, 2002, or an earlier revision of ASB 72-A0848 or SB CF6-80C2 72-0848, inspect the web and the web and hub-to-web transition areas in accordance with CF6-80C2 S/B 72-A0848, Revision 8, dated October 2, 2002, at the earliest of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 3,000 CSN, or
- (iii) From July 29, 2001, through July 28, 2003, before 7,000 CSN and after July 28, 2003, before 3,500 CSN.

(4) For spools that have not been inspected using ASB CF6-80C2 S/B 72-A0934, Revision 4, dated October 2, 2002, or an earlier revision of ASB 72-A0934, inspect the stage 3-5 dovetail slot bottom in accordance with the requirements of ASB CF6-80C2 S/B 72-A0934, Revision 4, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) Within 4,000 additional CIS after the effective date of this AD.

### *Repetitive Inspection*

(5) For spools that have already been inspected using one of the ASB's or SB's listed in Column A of Table 9; OR a combination of one procedure from Column B and one from Column C; OR a combination of one procedure from Column D and one from Column E, reinspect the hub and bore in accordance with the requirements of ASB CF6-80C2 S/B 72-A0812, Revision 4, dated October 2, 2002, and the web and hub-to-web transition areas in accordance with ASB CF6-80C2 S/B 72-A0848, Revision 8, dated October 2, 2002, at the earlier of:

- (i) Each PPE with more than 1,000 CSLI and 3,500 CSN, or
- (ii) From July 29, 2001, through January 27, 2003, before the cycle limits of Table 6, and after January 27, 2003, before the cycle limits of Table 5.

### *Spool Disposition*

(6) If inspection findings equal or exceed the reject limits established by ASB CF6-80C2 S/B 72-A0812, Revision 4, dated October 2, 2002, or ASB CF6-80C2 S/B 72-A0848, Revision 8, dated October 2, 2002, or ASB CF6-80C2 S/B 72-A0934, Revision 4, dated October 2, 2002; replace spool before further flight.

### *Spool Reinstallation Limit*

(7) After the effective date of this AD, do not install any engine that has an HPCR stage 3-9 spool, P/N's 1333M66G01, 1333M66G03, 1333M66G07, 1333M66G09, 1781M53G01, 1781M53G02, 1781M53G03, 1781M53G04, 1781M53G06, 1781M53G07, 1781M53G08, 1781M53G09, 1854M95P01, 1854M95P03, 1854M95P04, 1854M95P06 and 1854M95P07, installed where the spool has 10,500 or more CSN.

## **CF6-80C2 8-Inch Billet 2-Piece Spools**

(k) For CF6 HPCR stage 3-9 spool, P/N's 1333M66G10, 1781M53G05, 1781M53G010, and 1854M95P08, do the following:

(1) If the spool has not already been inspected using one of the ASB's or SB's listed in Column A of Table 9; OR a combination of one procedure from Column B and one from Column C; OR a combination of one procedure from Column D and one from Column E, inspect hub and bore in accordance with the piece-part level inspection of ASB 72-A0812, Revision 4, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 6,000 CSN.

(2) For spools that have not been inspected using ASB 72-A0848, Revision 8, dated October 2, 2002, or an earlier revision of ASB 72-A0848, or SB 72-0848, inspect the web and hub-to-web transition areas in accordance with the requirements of ASB CF6-80C2 S/B 72-A0848, Revision 8, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 6,000 CSN.

(3) For spools that have not been inspected using ASB CF6-80C2 S/B 72-A0934, Revision 3, dated October 2, 2002, or an earlier revision of ASB 72-A0934, inspect the stage 3-5 dovetail slot bottom in accordance with the requirements of ASB CF6-80C2 S/B 72-A0934, Revision 4, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 6,000 CSN.

### *Spool Disposition*

(4) If inspection findings equal or exceed the reject limits established by ASB CF6-80C2 S/B 72-A0812, Revision 4, dated October 2, 2002, or ASB CF6-80C2 S/B 72-A0848, Revision 8, dated October 2, 2002, or ASB CF6-80C2 S/B 72-A0934, Revision 4, dated October 2, 2002; replace spool before further flight.

### **CF6-80E1 9&10-Inch Billet Spools**

(l) For CF6 HPCR stage 3-9 spool, P/N's 1669M22G01, 1669M22G03, 1782M22G01 and 1782M22G02, do the following:

### *Initial Inspection*

(1) If the spool has greater than 7,000 CSN and has not already been inspected using one of the ASB's listed in Column A of the following Table 10; OR a combination of one procedure from Column B and one from Column C; OR a combination of one procedure from Column D and one from Column E, OR if the spool has not been inspected using ASB CF6-80E1 S/B 72-A0126, Revision 5, dated October 2, 2002, or an earlier revision of ASB 72-A0126, or SB 72-0126, inspect the hub and bore in accordance with ASB CF6-80E1 S/B 72-A0135, Revision 3, dated October 2, 2002; and the web and hub-to-web transition areas in accordance with ASB CF6-80E1 S/B 72-A0126, Revision 5, dated October 2, 2002, before further flight.

**TABLE 10**

<b>CF6-80E1 SB No.</b>	<b>Procedures (70-32-XX) in standard practices manual GEK9250</b>			
Column A	Column B	Column C	Column D	Column E
ASB 72-A0135, dated August 13, 1998.	70-32-09, Revision 71, dated October 1, 1995.	70-32-10, Revision 71, dated October 1, 1995.	70-32-13, Temporary Revision (TR), 70-25, dated August 26, 1996.	70-32-14, TR 70-26, dated August 26, 1996.
ASB 72-A0135, Revision 1, dated October 28, 1999.	70-32-09, Revision 71, dated November 15, 1996.	70-32-10, Revision 71, dated November 15, 1996.	70-32-13, Revision 72, dated November 15, 1996.	70-32-14, Revision 71, dated November 15, 1996.
ASB 72-A0135, Revision 2, dated June 6, 2001.	70-32-09, Revision 74, dated May 1, 1998.	70-32-10, Revision 74, dated May 1, 1998.	70-32-13, Revision 73, dated November 1, 1997.	70-32-14, Revision 73, dated November 1, 1997.
ASB CF6-80E1 S/B 72-A0135, Revision 3, dated October 2, 2002.		70-32-10, Revision 75, dated December 15, 1998.	70-32-13, Revision 75, dated December 15, 1998.	70-32-14, Revision 75, dated December 15, 1998.
			70-32-13, TR 70-41, dated February 10, 1999.	70-41, TR 70-42, dated February 10, 1999.

	70-31-13, Revision 76, dated May 15, 1999.	70-31-14, Revision 76, dated May 15, 1999.
	70-31-17, TR 70-39, dated December 15, 1998.	70-31-18, TR 70-40, dated December 15, 1998.
	70-31-17, Revision 76, dated May 15, 1999.	70-31-18, Revision 76, dated May 15, 1999.
	70-31-17 TR 70-47, dated October 28, 1999.	70-31-18 TR 70-48, dated October 28, 1999.

(2) If the spool has 7,000 or fewer CSN and has not already been inspected using one of the ASB's listed in Column A of Table 10; OR a combination of one procedure from Column B and one from Column C; OR a combination of one procedure from Column D and one from Column E, OR if the spool has not been inspected using ASB CF6-80E1 S/B 72-A0126, Revision 5, dated October 2, 2002, or an earlier revision of ASB 72-A0126, or SB 72-0126, inspect the hub and bore in accordance with ASB CF6-80E1 S/B 72-A0135, Revision 3, dated October 2, 2002; and the web and hub-to-web transition areas in accordance with ASB CF6-80E1 S/B 72-A0126, Revision 5, dated October 2, 2002, at the earliest of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 3,000 CSN, or
- (iii) From July 29, 2001, through January 27, 2003, before 7,000 CSN, and after January 27, 2003, before 3,500 CSN.

(3) Spools not previously inspected using ASB CF6-80E1 S/B 72-A0137, Revision 4, dated October 2, 2002, or an earlier revision of ASB 72-0137, or SB 72-0137, inspect stage 3-5 dovetail slot bottoms in accordance with the requirements of ASB CF6-80E1 S/B 72-A0137, Revision 4, dated October 2, 2002, at the earliest of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first HPCR exposure after 1,000 CSN, or
- (iii) The next required inspection to ASB CF6-80E1 S/B 72-A0135, Revision 3, dated October 2, 2002.

### *Repetitive Inspection*

(4) For spools that have already been inspected using one of the ASB's listed in Column A of Table 10; OR a combination of one procedure from Column B and one from Column C; OR a combination of one procedure from Column D and one from Column E, inspect the hub and bore in accordance with the requirements of ASB CF6-80E1 S/B 72-A0135, Revision 3, dated October 2, 2002, the web and hub-to-web transition areas in accordance with ASB CF6-80E1 S/B 72-A0126, Revision 5, dated October 2, 2002, and the stage 3-5 dovetail slot bottoms in accordance with ASB CF6-80E1 S/B 72-A0137, Revision 4, dated October 2, 2002, at the earlier of:

- (i) Each PPE with more than 1,000 CSLI and 3,500 CSN, or
- (ii) From July 29, 2001, through January 27, 2003, before the cycle limits of Table 6, and after January 27, 2003, before the cycle limits of Table 5.

### *Spool Disposition*

(5) If inspection findings equal or exceed the reject limits established by ASB CF6-80E1 S/B 72-A0135, Revision 3, dated October 2, 2002; ASB CF6-80E1 S/B 72-A0126, Revision 5, dated

October 2, 2002; and ASB CF6-80E1 S/B 72-A0137, Revision 4, dated October 2, 2002; replace spool before further flight.

### *Spool Reinstallation Limit*

(6) After the effective date of this AD, do not install any engine that has an HPCR stage 3-9 spool, P/N's 1669M22G01, 1669M22G03, 1782M22G01, and 1782M22G02, installed where the spool has 10,500 or more CSN.

### **CF6-80E1 8-Inch Billet 2-Piece Spools**

(m) For CF6 HPCR stage 3-9 spool, P/N 1782M22G04, do the following:

(1) If the spool has not already been inspected using one of the ASB's or SB's listed in Column A of the following Table 9; OR a combination of one procedure from Column B and one from Column C; OR a combination of one procedure from Column D and one from Column E, inspect hub and bore in accordance with the piece-part level inspection of ASB CF6-80E1 S/B 72-A0135, Revision 3, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 6,000 CSN.

(2) For spools that have not been inspected using ASB CF6-80E1 S/B 72-A0126, Revision 5, dated October 2, 2002, or an earlier revision of ASB 72-A0126, or SB 72-0126, inspect the web and hub-to-web transition areas in accordance with ASB CF6-80E1 S/B 72-A0126, Revision 5, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 6,000 CSN.

(3) For spools that have not been inspected using ASB CF6-80E1 S/B 72-A0137, Revision 4, dated October 2, 2002, or an earlier revision of ASB 72-A0137, or SB 72-0137, inspect the stage 3-5 dovetail slot bottoms in accordance with ASB CF6-80E1 S/B 72-A0137, Revision 4, dated October 2, 2002, at the earlier of:

- (i) The first PPE after 1,000 CSN, or
- (ii) The first ESV after 6,000 CSN.

### **Spool Disposition**

(4) If inspection findings equal or exceed the reject limits established by ASB CF6-80E1 S/B 72-A0135, Revision 3, dated October 2, 2002; ASB CF6-80E1 S/B 72-A0126, Revision 5, dated October 2, 2002; and ASB CF6-80E1 S/B 72-A0137, Revision 4, dated October 2, 2002; replace spool before further flight.

### **Reporting Requirements**

(n) Within five calendar days of inspection, report the results of inspections that equal or exceed the reject criteria to: Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive park, Burlington, MA 01803-5299; telephone (781) 238-7147; fax (781) 238-7199. Reporting requirements have been approved by the Office of Management and Budget and assigned OMB control number 2120-0056. Be sure to include the following information:

- (1) Part Number.
- (2) Serial Number.
- (3) Spool CSN.
- (4) Spool CSLI.
- (5) Date and location where inspection was done.

## Definitions

(o) For the purpose of this AD, the following definitions apply:

(1) A module level exposure is a separation of the fan module from the engine.

(2) An HPC rotor exposure is a HPC top or bottom case removal.

(3) A PPE is a disassembly and removal of the stage 3-9 spool from the HPCR structure, regardless of any blades, locking lugs, bolts or balance weights assembled to the spool.

(4) An ESV is the introduction of an engine into the shop where the separation of a major engine flange will occur after the effective date of this AD.

(5) The following maintenance actions, or any combination, are not considered ESV's for requiring repeat inspections:

(i) Introduction of an engine into a shop solely for removal of the compressor top or bottom case for airfoil maintenance or variable stator vane bushing replacement.

(ii) Introduction of an engine into a shop solely for removal or replacement of the Stage 1 Fan Disk.

(iii) Introduction of an engine into a shop solely for replacement of the Turbine Rear Frame.

(iv) Introduction of an engine into a shop solely for replacement of the Accessory and/or Transfer Gearboxes.

(v) Introduction of an engine into a shop solely for replacement of the Fan Forward Case.

## Alternative Methods of Compliance

(p) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office (ECO). Operators must submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, ECO.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the ECO.

## Special Flight Permits

(q) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be done.

## Documents That Have Been Incorporated By Reference

(r) The inspections must be done in accordance with the following GE Aircraft Engines alert service bulletins (ASB's):

Document No.	Pages	Revision	Date
ASB CF6-50 S/B 72-A1108	All	5	October 2, 2002.
Total pages: 7.			
ASB CF6-50 S/B 72-A1131	All	4	Do.
Total pages: 43.			
ASB CF6-50 S/B 72-A1157	All	4	Do.
Total pages: 38.			
ASB CF6-80A S/B 72-A0678	All	5	Do.
Total pages: 7.			

ASB CF6-80A S/B 72-A0691	All	5	Do.
Total pages: 43.			
ASB CF6-80A S/B 72-A0719	All	5	Do.
Total pages: 38.			
ASB CF6-80C2 S/B 72-A0812	All	4	Do.
Total pages: 6.			
ASB CF6-80C2 S/B 72-A0848	All	8	Do.
Total pages: 43.			
ASB CF6-80C2 S/B 72-A0934	All	4	Do.
Total pages: 38.			
ASB CF6-80E1 S/B 72-A0126	All	5	Do.
Total pages: 44.			
ASB CF6-80E1 S/B 72-A0135	All	3	Do.
Total pages: 6.			
ASB CF6-80E1 S/B 72-A0137	All	4	Do.
Total pages: 38.			

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from General Electric Company via Lockheed Martin Technology Services, 10525 Chester Road, Suite C, Cincinnati, Ohio 45215, telephone (513) 672-8400, fax (513) 672-8422. Copies may be inspected at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the

#### **Effective Date**

(s) This amendment becomes effective on January 23, 2003.

Issued in Burlington, Massachusetts, on December 11, 2002.

Francis A. Favara,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

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